

REMARKS

In the Office Action dated December 17, 2007, claims 35-41 were rejected under 35 U.S.C. § 101; claims 1-41 were rejected under 35 U.S.C. § 112, ¶ 2; claims 1, 5-7, 11, 14, 17, 18, 24, 26, 27, 32, 34, 35, 37, and 38 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,437,033 (Inoue); claims 2, 12, 13, 25, 28, 29, 36, 39, and 40 were rejected under 35 U.S.C. § 103(a) as unpatentable over Inoue in view of U.S. Patent No. 6,199,159 (Fish); claims 15, 16, 19, 21, 22, and 33 were rejected under 35 U.S.C. § 103(a) as unpatentable over Inoue in view of P. Barham, "Xen and the Art of Virtualization" (Barham); and claims 3, 4, 8-10, 20, 23, 30, 31, 37, and 41 were rejected under 35 U.S.C. § 103(a) as unpatentable over Inoue in view of Fish and Barham.

REJECTION UNDER 35 U.S.C. § 101

Claim 35 has been amended to address the § 101 rejection. In amended claim 35, it is recited that the flexible operating system is executable on the at least one processor. Therefore, the “software per se” concern raised by the Office Action has been addressed. Withdrawal of the § 101 rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 112, ¶ 2

With respect to claim 1, the Office Action stated that the phrase “first manner as a native operating system” is unclear, and the Office Action questioned whether the “operating system boots up as native OS by default? How is booting mode defined?” 12/17/2008 Office Action at 2.

It is respectfully submitted that whether or not the operating system boots as a native operating system by default, and how the booting mode is defined, is completely irrelevant to the subject matter of claim 1. Claim 1 is entirely clear that the operating system determines whether it is being used as a native operating system or as a virtualized operating system on a computer system, and that the operating system executes in a first manner as a native operating system in response to detecting that the operating system is being used as the native operating system, and to execute in a second manner as a virtualized operating system in response to detecting that the operating system is being used as a virtualized operating system.

Ample support exists throughout the Specification regarding differences in execution when the operating system is used as a native operating system or a virtualized operating system. A person of ordinary skill in the art therefore would clearly understand what is meant by “first manner as a native operating system.” Asking Applicant to specifically define how the native operating system is booted would unduly limit the scope of the claim, and in fact, would be completely irrelevant to the subject matter of the claim.

The Office Action also stated that the phrase “code for determining” is unclear because the claim does not specify how the determination is made. It is respectfully submitted that there is no requirement that the specific manner of the determination must be recited in the independent claim. Ample support exists in the Specification regarding how such a determination can be made. It would unduly limit the scope of the claim to have to recite any specific manner of making the determination. A person of ordinary skill in the art would clearly have understood the scope of the claim based on the existing language of claim 1.

In view of the foregoing, withdrawal of the § 112 rejection of claim 1, and also of the other claims is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103

Independent claim 11 was rejected as being anticipated by Inoue. The rejection of claim 11 referred to the rejection of claim 1. 12/17/2007 Office Action at 5.

It is noted that the anticipation rejection is improper in view of the concession made in the Office Action that Inoue does not “specifically disclose code for selectively executing in said first manner if determined that said operating system is being used as a native operating system by said computer system and in second manner if determined that said operating system is being used as a virtualized operating system on said computer system.” *Id.* at 6. The quote referenced above is from the Office Action’s rejection of former dependent claim 2. In view of this concession by the Office Action, it is respectfully submitted that the rejection of claim 11 as being anticipated by Inoue is erroneous, since Inoue does not disclose the last two clauses of claim 11: (1) said at least one operating system operating in a first manner if determined that it is a native operating system; and (2) said at least one operating system operating in a second manner if determined that it is a guest operating system on a virtual machine.

In any event, it is respectfully submitted that Inoue does not disclose the subject matter of claim 11. Note that Inoue defines a virtual machine that can be continuously operated from a guest mode to a non-guest mode. Inoue, 6:6-8. As defined by Inoue, a guest mode is a mode in which virtual machines are operated, and a non-guest mode is a mode in which a virtual machine monitor for controlling the operation of the virtual machines or a hypervisor is operated. *Id.*, 1:42-46. Thus, Inoue contemplates that a virtual machine is continuously operated in both the guest mode the non-guest mode.

The Office Action cited column 2, lines 20-25, of Inoue as disclosing a non-guest mode operation of the operating system. However, since Inoue contemplates that the virtual machine continuously operates from a guest mode to a non-guest mode, in other words, the virtual machine is operated in both guest mode and non-guest mode, then that would mean that the operating system that is part of the virtual machine would continue to be part of a virtual environment. Therefore, Inoue does not disclose an operating system operating in a first manner if determined that it is a **native** operating system, as recited in claim 11.

In view of the foregoing, it is respectfully submitted that claim 11 is not anticipated by Inoue.

Independent claim 35 is similarly allowable over Inoue.

Independent claim 17 has been amended to recite that operation of the operating system can be adapted depending on whether the operating system is running a virtualized operating system or native operating system. Claim 17 also recites that the native operating system manages hardware resources without using a VMM, and the virtualized operating system manages hardware resources using the VMM.

In Inoue, an operating system is part of a virtual machine, which has to interact with a VMM. Thus, when the virtual machine is in guest mode or non-guest mode (note that Inoue teaches that a virtual machine can continuously operate in guest mode and non-guest mode), the VMM has to be used. Therefore, the subject matter of claim 17 is not anticipated by Inoue.

Claim 1 has been amended to recite subject matter similar to subject matter of former dependent claim 2. Dependent claim 2 was rejected as being obvious over Inoue and Fish. The Office Action conceded that Inoue fails to disclose certain subject matter of former claim 2. 12/17/2007 Office Action at 6. However, the Office Action relied upon Fish as disclosing the claimed subject matter missing from Inoue. Specifically, the Office Action cited column 3, lines 2-8, of Fish.

It is noted that Fish has nothing to do with the claimed subject matter. Note that claim 1 recites an operating system that can execute in a first manner as a native operating system on a computer system in response to detecting that the operating system is being used as the native operating system, and to execute in a second manner as a virtualized operating system on the computer system in response to detecting that the operating system is being operated as the virtualized operating system. In contrast, Fish discloses the use of **two separate** operating systems: virtual mode operating system 12 and real mode operating system 10. Fish addresses the issue of allowing the virtual and real mode operating systems to cooperate with each other. Fish, 1:26-27. Fig. 3 of Fish also shows that either the real mode operating system 10 or virtual mode operating system 12 is booted based on operating system selection. There is absolutely no indication that the same operating system can operate in two different manners, as recited in claim 1.

Therefore, even if Inoue and Fish could be hypothetically combined, the hypothetical combination of references would not have led to the claimed subject matter.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is **important** to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Moreover, it is respectfully submitted that a person of ordinary skill in the art would not have been prompted to combine the teachings of Inoue and Fish. Note that even though the term “virtual” is used in Fish, the virtual mode operating system of Fish is quite different from what is contemplated by Inoue. Inoue refers to an operating system that is part of a virtual machine that can operate continuously in guest mode and non-guest mode. In contrast, Fish refers to two different operating systems, a real mode operating system and a virtual mode operating system. The concerns raised by Fish have nothing to do with the virtual machine operating system of Inoue. Therefore, a person of ordinary skill in the art would not have been prompted to combine the teachings of Inoue and Fish.

Therefore, the obviousness rejection of the subject matter of claim 1 is defective.


Independent claim 27 has incorporated subject matter of former dependent claim 28, which was rejected as being obvious over Inoue and Fish. In view of the discussion above with respect to claim 1, it is respectfully submitted that the obviousness rejection of the subject matter of claim 27 is also defective.

Dependent claims, including newly added dependent claims 42 and 43, are allowable for at least the same reasons as corresponding independent claims. Moreover, in view of the defective rejections of base claims, it is respectfully submitted that the obviousness rejections of dependent claims have also been overcome.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 08-2025 (200315952-1).

Respectfully submitted,

Date: Mar 17, 2008



Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
1616 South Voss Road, Suite 750
Houston, TX 77057-2631
Telephone: (713) 468-8880
Facsimile: (713) 468-8883